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A journal of forestry information for Nepal

Initiating Biosafety Procedures in Nepal

The member states of the Convention on Biological Diversity (CBD) have been debating the need for a biosafety protocol since 1991, from the time the Convention itself was being negotiated. Since then plenty of water have flown in rivers, and, with time the developed countries have been putting tremendous efforts in strengthening biosafety measures to minimise the consequences arising from Genetically Modified Organisms (GMOs). Nepal has yet to develop capacity needed to restrict the GMOs that enter into its frontier either legally or illegally. Recently initiatives to develop biosafety guidelines for Nepal have been started by the Ministry of Forests and Soil Conservation, which will also help ascertain whether Nepal is a GMO-free country or not.

The experience and knowledge of perils presented by genetic engineering and the biotechnology industries of the West have affirmed the serious inadequacies in both regulations and testing procedures that currently exist, as well as the degree of unpredictability with regards to ecological impacts of transgenic organisms. Few classical examples of such impacts, have been reported i) on soil organisms and plant life by Ecological Society of America; ii) rapid transfer of transgenes by spontaneous hybridization between engineered oilseed and its weedy relative by Denmark; iii) survival and spread of genetically engineered organisms/ DNA from containment by Germany. DNA persistence in laboratories, waste water treatment plants, aquatic systems, soils and digestive systems of mammals has also been shown in a series of experiments. The long-term ecosystem effects of these surprise survivals are unknown. The GMOs, which are currently designed for commercial release, are designed to be robust and vigorous. Despite they are not supposedly designed to survive in open environment, increasing evidences have shown that these organisms survive in waste water and sludge, soils and aquatic ecosystems. From there they may migrate, mutate and multiply. This self-replicating nature of genetic material and lateral spread through ecosystems results in an intrinsically unstable and unpredictable situation. Even the (limited) understanding that we have at present, has now recognised three major risks:

- effects of transgenic products (primary and secondary) on non-target organisms;
- establishment and spread of transgenic crop plants in non-target sites; and

- transfer by hybridization and introgression of transgenes from crop into wild relatives.

Of special concern to a developing country like ours are the socio-economic impacts of the introduction of GMOs and products. In the long run, it seems that the transgenic crops are likely to replace our traditional crops on which the rural communities have depended for their survival and livelihood since long. In addition, the patented transgenic crop could prevent the use of non-transgenic donor or recipient species by traditional farmers, resulting in the loss of landraces and increased production costs as farmers will then have to pay for patented seeds and their accompanying package of herbicides, insecticides and fertilizers.

In Agenda 21 of CBD, Governments undertook to consider international cooperation on safety in biotechnology. That commitment includes: sharing experience, capacity-building and international agreement on principles for biosafety. Nepal is one of the 170 plus countries to sign and ratify the Convention in 1992 and 1993 respectively. It was followed by signing and implementing the Cartagena Protocol on Biosafety on March 2001. Authorities are now confident that this guideline will "greatly help conserve biodiversity and promote public health". There is no doubt that a foundation has been laid, but how long will Nepal take to build capacity so that it could protect itself from the perils of intruding biotechnology is a serious concern.